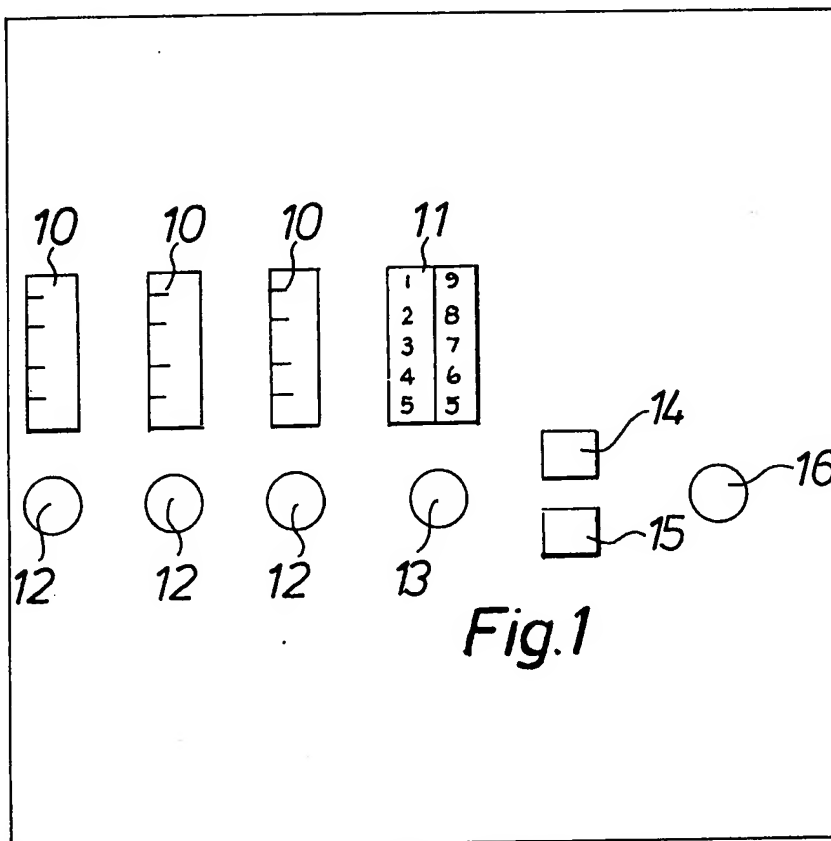


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(54) Amusement machines

(57) An amusement machine comprises a plurality of reels 10 which are adapted to be rotated in both upward and downward directions, control means to control the rotation of the reels and the pay-out when a winning combination is achieved, said control means including means to activate a drive motor to rotate the reels in an upward direction 14 and to rotate the reels in a downward direction 15, the direction being indicated to the control means by a player controlled selector.



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The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

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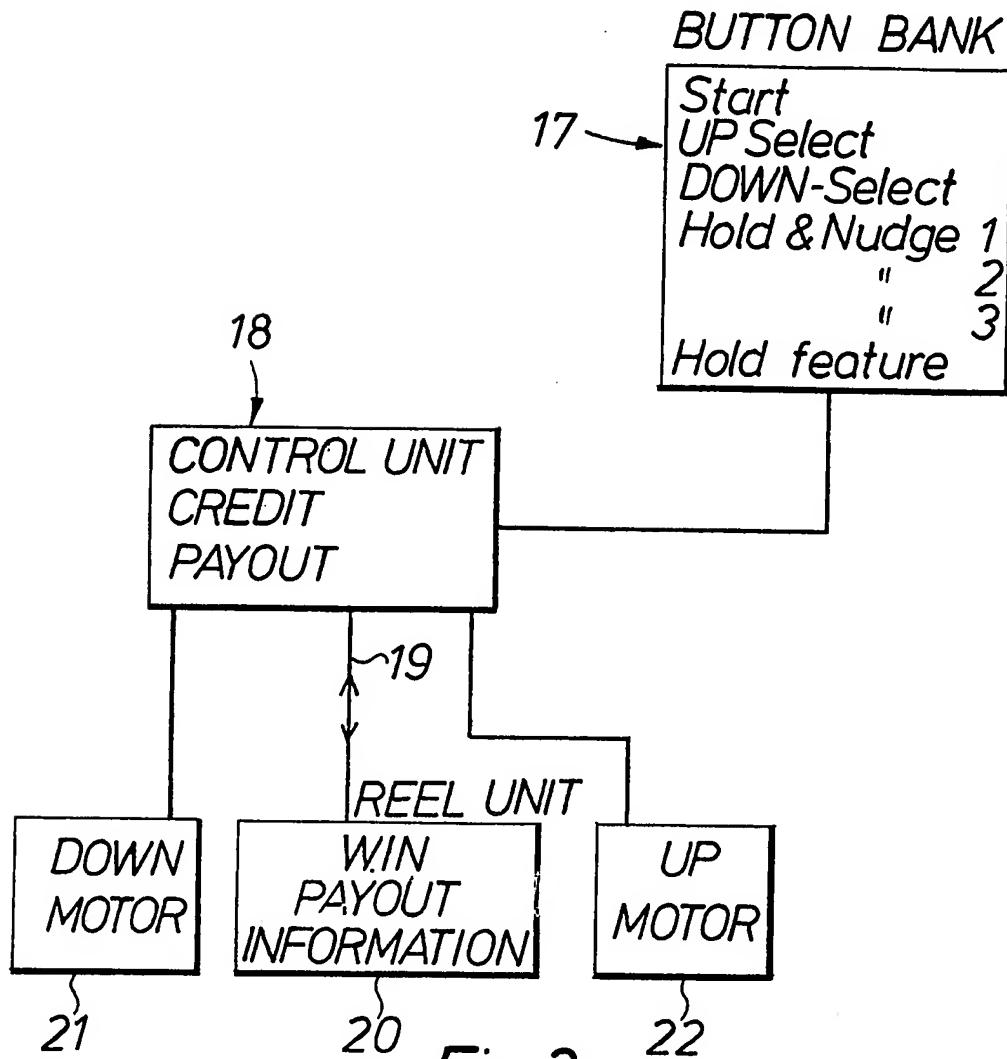


Fig. 2

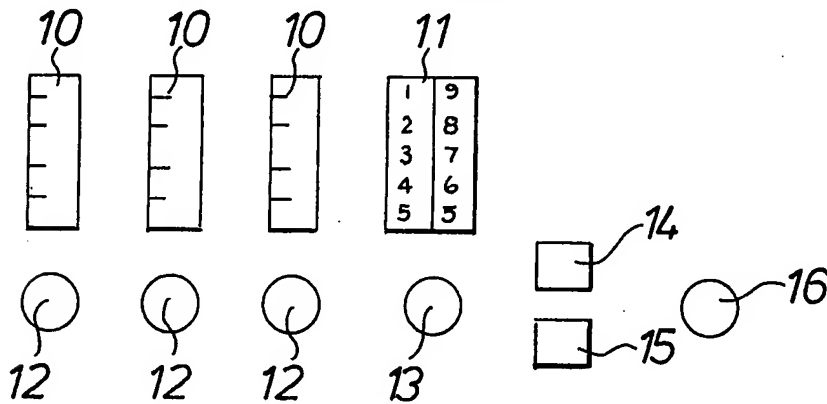


Fig. 1

## SPECIFICATION

## Amusement machines

5 This invention relates to amusement machines and more particularly concerns those machines known as gaming or amusement-with-prizes machines.

Conventional amusement-with-prize machines comprise a plurality of rotatable reels having a  
10 number of symbols spaced around the periphery thereof. At each play of the machines these reels are rotated and then stopped at random positions with one or more symbols on each reel displayed in a window. When certain predetermined combinations  
15 of symbols are aligned in the window they constitute a winning combination and the machine will pay out a predetermined amount of money or tokens depending upon the particular combination of symbols.

20 In order to make the game more interesting various player-controlled features have been introduced. These features include a "HOLD" feature where for certain plays the machine will make the HOLD feature available and the player may then hold  
25 one or more reels as indicated by the machine in a fixed position whilst the other reel or reels are rotated during the next play.

Another feature which has been introduced is the so-called "NUDGE" feature in which for certain plays  
30 as indicated by the machine the player may move one or more reels stepwise in order to try and achieve a winning combination. The NUDGE feature can frequently be used to nudge the appropriate reel in either one of the two possible directions.

35 A development of the NUDGE feature has been the provision of a number of possible nudges and these are displayed either on a separate reel or by the appropriate illumination of a panel. In this case the player may be awarded a number of nudges which  
40 he can use in any way he pleases to try to achieve a winning combination.

It is an object of the present invention to provide an improved amusement-with-prizes machine which has an additional feature.

45 According to the present invention an amusement machine comprises a plurality of reels which are adapted to be rotated in both upward and downward directions, control means to control the rotation of the reels and the pay-out when a winning  
50 combination is achieved, said control means including means to activate a drive motor to rotate the reels in an upward direction and to rotate the reels in a downward direction, the direction being indicated to the control means by a player controlled selector.

55 In this specification the term "reel" is used to refer not only to conventional rotatable reels but also to include alternative arrangements such as simulated reels produced by electronic means.

The present invention introduces an entirely new  
60 concept into amusement machines in that, hitherto, the reels have always been rotated in one direction. In the machines according to the present invention the player has a choice of direction in which the reels are rotated and this considerably increases the  
65 attraction of the machine.

Conveniently the reels form part of a reel unit provided with two motors one for rotating the reels in an upward direction and one motor for rotating the reels in a downward direction and the control  
70 unit activates the appropriate motor in response to the player's selection. Alternatively a single motor may be used and arranged to be driven in either the upward or downward direction.

Reference is now made to the accompanying  
75 drawings in which:-

*Figure 1* is a diagrammatic representation of the display panel of a machine according to the invention; and

*Figure 2* is a simplified block circuit diagram of the  
80 machine.

Referring to *Figure 1* the machine comprises a reel unit 20 having rotatable three reels 10 having symbols distributed around the periphery thereof in the conventional manner. The reel unit 20 includes  
85 an additional reel 11 upon which a plurality of numbers are marked to indicate the number of nudges available to a player when the NUDGE feature is activated.

The machine includes three HOLD/NUDGE buttons  
90 12 each associated with an individual reel and each of which can be used by a player to either hold or nudge the appropriate reel when that feature is available. The fourth button 13 may be used to hold the nudge reel 11 when this feature is available.

95 The machine also includes a pair of buttons 14 and 15 one being an "UP" button and one a "DOWN" button so that before depression of the start button 16 which commences a play the player may select in direction the reels are required to rotate. All reels will  
100 then rotate in that selected direction unless a HOLD feature is available and has been selected and any subsequent nudges available to the player will also be in the direction which has already been selected by the button 14 or 15.

105 In the embodiment shown the NUDGE reel 11 includes two sequences of numbers arranged from 1 to 9 and extending in opposite directions around the reel. One sequence relates to the "UP" condition and the other sequence to the "DOWN" condition so that  
110 the number of available nudges can influence a player's decision as to which direction to rotate the reels.

*Figure 2* indicates schematically the basic elements required for the operation of a machine according to the invention. The button bank 17  
115 includes all the buttons mentioned in relation to *Figure 1* and these have been allocated the same reference numerals. The output from the button bank is fed to the control unit 18 which controls the reel rotation, credit, pay-out and the indication of the availability of HOLD and NUDGE features. This  
120 output is indicated by the line 19 to the reel unit 20.

The control unit 18 is also connected with the DOWN motor 21 and the UP motor 22 which rotate  
125 reels in the direction indicated under the control of the control unit 18 and, in turn, in accordance with the button 14 or 15 selected by the player.

It will be appreciated that the present invention affords an extremely attractive and interesting  
130 amusement machine with an additional feature

which considerably increases the interest and attraction of the game. This additional feature can be provided by a simple modification and little extra cost as it merely requires the provision of UP and DOWN buttons and an extra drive motor, the latter frequently being available in existing machines for actuation of a NUDGE feature.

#### CLAIMS

10

1. An amusement machine comprising a plurality of reels which are adapted to be rotated in both upward and downward directions, control means to control the rotation of the reels and the pay-out

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when a winning combination is achieved, said control means including means to activate a drive motor to rotate the reels in an upward direction and to rotate the reels in a downward direction, the direction being indicated to the control means by a player controlled selector.

20

2. An amusement machine according to Claim 1 in which the reels form part of a reel unit provided with two motors one for rotating reels in the upward direction and one for rotating the reels in a downward direction.

25

3. An amusement machine according to Claim 1 in which a single motor is employed and is arranged to drive the reels either in an upward or a downward direction.

30

4. An amusement machine according to any of Claims 1 to 3 in which a pair of actuating means are provided, selectable by a player, one actuating means being arranged to select upward movement of the reels and one actuating means being arranged to select downward movement of the reels.

35

5. An amusement machine according to any of Claims 1 to 4 in which the machine incorporates a HOLD feature.

40

6. An amusement machine according to any of Claims 1 to 5 in which the machine includes a NUDGE feature, the direction of the NUDGE being determined by the condition of the player-selectable actuating means.

45

7. An amusement machine substantially as herein described with reference to and as shown in the accompanying drawings.